IN THE CLAIMS

Please cancel claims 1-12, 14-39 and 52-57 without prejudice.

1.-12. (Cancelled)

13. (Not originally filed)

14.-39. (Cancelled)

40. (Original) A method for determining the concentration of at least one target constituent contained within biological fluid, the method comprising the steps of:

providing at least one micro-needle comprising an open distal end and a lumen;

providing an electrochemical cell within the lumen, the electrochemical cell comprising a concentrically-layered electrode configuration;

inserting the open distal end of the micro-needle into the skin to a selected depth;

transferring a sample of at least one target constituent within the biological fluid present at the open distal end through the lumen and into the electrochemical cell;

providing a first electrical signal to the electrochemical cell; and

receiving a second electrical signal generated by the electrochemical cell, wherein the second electrical signal is representative of the concentration the constituent in the biological fluid.

41. (Not originally filed)

42. (Original) A method for determining the concentration of at least one target constituent contained within biological fluid, the method comprising the steps of:

providing at least one hollow micro-needle comprising an open distal end, an open proximal end and a lumen extending there between;

providing an electrochemical cell in fluid communication with the hollow micro-needle, the cell comprising a parallely-spaced electrode configuration, wherein the electrode configuration is positioned at the open proximal end of the hollow micro-needle substantially transverse to the micro-needle;

inserting the open distal end of the hollow micro-needle into the skin to a selected depth;

transferring a sample of the at least one targeted biological fluid constituent present at the open distal end of the hollow micro-needle into the electrochemical cell;

providing a first electrical signal to the electrochemical cell; and

receiving a second electrical signal generated by the electrochemical cell, wherein the second electrical signal is representative of the concentration the constituent in the biological fluid.

43. (Original) A method according to claim 40 or 41 wherein the selected depth is no greater than the viable epidermis.

44. (Original) The method according to claim 43 wherein the selected depth is no greater than the stratum corneum.

45. (Original) A method according to claim 40 or 41 wherein the step of transferring comprises providing a hydrophilic gel material within the micro-needle lumen and in contact with the electrochemical cell, wherein the hydrophilic gel material absorbs at least one target constituent within biological fluid present at the open distal end of the micro-needle.

46. (Original) A method according to claim 40 or 41 wherein the steps of providing a first electrical signal and receiving a second electrical signal is performed by a control unit in electrical communication with the electrochemical cell.

47. (Original) A method according to claim 40 or 41 further comprising the step of deriving the concentration of the constituent in the patient's biological fluid from the second electrical signal.

48. (Original) The method according to claim 47 further comprising the step of displaying a numerical value representative of the concentration of the constituent in the patient's biological fluid.

49. (Original) The method according to claim 47 wherein the step of deriving comprises using a software algorithm.

50. (Original) The method of claim 45 further comprising the step of allowing the concentration of the at least one targeted constituent in the hydrophilic gel material to equilibrate with the concentration of the at least one targeted constituent within biological fluid in the patient's skin prior

to the step of providing a first electrical signal to the electrochemical cell.

51. (Original) The method of claim 45 wherein the step of providing a first electrical signal to the electrochemical cell is performed prior to the time it takes for the concentration of the at least one targeted constituent in the hydrophilic gel material to equilibrate with the concentration of the least one targeted constituent within biological fluid in the patient's skin.

52. – 57. (Cancelled)